March 13, 2020

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U.S. EPA Region V
Air Management Division
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RE: BP-Husky Refining LLC
40 CFR 63 Subparts A and CC Periodic Reports – 2nd Half 2019

Dear Sir or Madam:

Please find enclosed the periodic report for BP-Husky Refining, LLC covering the time period from July 15, 2019 through January 14, 2020. This report includes the periodic report in accordance with 40 CFR § 63.655, 40 CFR § 63.10, and Table 6--General Provisions Applicability to Subpart CC in the Appendix to Subpart CC: Tables. The periodic report reflects the applicable updates to MACT CC through the technical correction amendments published in the Federal Register on November 26, 2018 (83 FR 60696).

In a letter dated November 1, 2018, the Ohio Environmental Protection Agency (Ohio EPA) approved BPH's Flare Extension Request; flare control requirements will become effective January 30, 2020.

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this periodic report are true, accurate, and complete.

If you have any questions concerning the content of this report, please contact Cameron Loth at (567) 698-4833 or cameron.loth@bp.com.

Sincerely,

Des Gillen
President, BP-Husky Refining, LLC

cc: Philip Stiff, III, TDES (Air Services)
Briana Mastriana, Ohio EPA (Air Services)

PERIODIC REPORT
REFINERY MACT (40 CFR 63 Subpart CC)

Reporting Period: July 15, 2019 – January 14, 2020

BP-Husky Refining LLC
P. O. Box 696
Toledo, OH 43697-0696

March 13, 2020

Table of Contents

List of Tables

List of Appendices

1. 40 CFR § 63.655(a) Wastewater Periodic Reporting Requirements

In accordance with 40 CFR § 63.655(a), BP-Husky Refining, LLC (BPH) complies with the annual reporting provisions in §61.357 of 40 CFR Part 61, Subpart FF (e.g. Benzene NESHAPs). The last annual report required per 40 CFR § 61.357(d) is dated December 23, 2019 and covered the period from December 1, 2018 through November 30, 2019.

2. 40 CFR § 63.655(b) Gasoline Loading Rack Periodic Reporting Provisions

BPH does not operate a loading rack regulated under 40 CFR 63 Subpart R or Subpart CC.

3. 40 CFR § 63.655(c) Marine Loading Periodic Reporting Provisions

The marine and tank vessel loading operation provisions at 40 CFR 63.651 reference the requirements of 40 CFR §§ 63.560 through 63.568 within Subpart Y. Accordingly, BPH complied with the submerged fill standards of 46 CFR § 153.282 per § 63.560(a)(4) of 40 CFR Part 63, Subpart Y for marine vessel loading operations during this reporting period. There are no additional reporting requirements for marine tank vessel loading operations under Subpart CC.

4. 40 CFR § 63.655(d) Leak Detection Standard Periodic Reporting Requirements

BPH has chosen to comply with the equipment leaks standards in § 63.648 by complying with the provisions of NSPS VV for compressors that are in organic HAPs service, and not subject to NSPS GGG/GGGa directly. Therefore, the NSPS VV periodic report, § 63.647, for this reporting period, is included in Attachment A.

Per the overlap provision in § 63.640(p)(2), BPH has chosen to comply with GGG/GGGa. Therefore, the NSPS VV periodic report, per § 63.640(p)(2) covering the same reporting period is also included in Attachment A.

Please note that the reporting period for 40 CFR 60 Subpart VV does not align with the reporting period of MACT CC, specifically the MACT CC report lags Subpart VV by 15 days; therefore, the Subpart VV data reported in this report follows the Subpart VV dates rather than the MACT CC dates. This is consistent with all past submitted reports.

Pressure relief device monitoring and reporting requirements are discussed in Section 5.4.

5. 40 CFR § 63.655 Remaining Subpart CC Periodic Reporting Requirements and Required Information

As part of the Subpart CC amendments promulgated under the RSR startup, shutdown, and malfunction provisions were removed. Under § 63.642 emission standards set forth in Subpart CC apply as all times of operation. As a result, BPH complies with "general duty" requirements, as specified under § 63.642(n) at all times.

> *"At all times, the owner or operator must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source."*

Any non-conformance with stated requirements during this reporting period are included as part of the individual applicable source(s) discussion in this report. Outside of the periods specified in this report, BPH complied with all applicable operating and monitoring requirements under Subpart CC.

The reporting requirements for the Refinery MACT are presented in § 63.655. This semiannual Periodic Report has been prepared in accordance with the provisions of § 63.655(g)(1) through (7) and (9) through (14).

BPH does not seek to comply with 40 CFR Subpart CC by using the emission averaging provisions presented in § 63.652, therefore no quarterly report is required in accordance with § 63.655(g)(8).

In accordance with 40 CFR § 63.655(g), the periodic report is to be submitted no later than 60 days after the end of each 6-month period when any of the compliance exceptions specified in paragraphs (g)(1), (g)(2), (g)(6), (g)(7), (g)(9), (g)(10), and (g)(14) of this section occur. The first 6-month period began on January 15, 1999, the date the initial Notification of Compliance Status report was submitted.

5.1 Storage vessels at an Existing Source

Inspection results reported in this Periodic Report are for Group 1 storage vessels which are subject to the requirements of § 63.646 or § 63.660 and their control equipment and includes the information required in § 63.655 (g)(2) through (g)(5). This Periodic Report does not include any inspection results for tanks not yet subject to the requirements of § 63.646 or § 63.660.

> **NOTE:** Beginning April 29, 2016, § 63.660 became effective which required compliance with part 63 subpart WW for Group 1 floating roof storage vessels. Subpart WW provides up to the next emptying and degassing event or January 30, 2026, whichever is first to upgrade seals and fittings to WW design requirements. Group 1 tanks which were emptied and degassed during this reporting period are reported under § 63.660 requirements and will be for subsequent reports. If a Group 1 tank has yet to be emptied and degassed after April 28, 2016, then reporting will be per § 63.646 requirements until the emptying and degassing event occurs.

5.1.1 Storage vessels with a fixed roof and an internal floating roof (including external floating roof storage vessels with self-supporting domes) complying with § 63.646

Storage vessels with a fixed roof and an internal floating roof or by using an external floating roof converted to an internal floating roof shall submit:

- Annual inspections conducted in accordance with §63.120(a) of Subpart G (Hatch Inspections) for which a failure in the control equipment was detected.

Table 1 contains the information required by § 63.655(g) for each annual inspection conducted in accordance with § 63.120(a)(2)(i) or (a)(3)(ii) during the reporting period.

> **NOTE:** The BPH Refinery has chosen to inspect double seal internal floating roof tanks under the provisions of § 63.120((a)(3)(ii) and (iii). During this reporting period no IFR tank seal inspections were performed under § 63.120(a)(3)(i) (5 year internal inspection).
>
> **NOTE:** If any Group 1 storage vessel completed an inspection under § 63.120(a)(2)(ii) (single seal 10 year internal inspection) or (a)(3)(iii) (double seal 10 year internal inspection) of Subpart G during the reporting period, that storage vessel became subject to the inspection and reporting requirements under § 63.660 and is discussed in Section 5.1.2 and Table 2 of this report.

5.1.2 Storage vessels with a fixed roof and an internal floating roof (including external floating roof storage vessels with self-supporting domes) complying with § 63.660

Storage vessels with a fixed roof and an internal floating roof shall submit:

- Inspections conducted in accordance with § 63.1063(c)(1), (d)(1), and (d)(2) of Subpart WW for which a failure in the control equipment was detected.

Table 2 contains the information required by § 63.655(g) for each annual inspection conducted in accordance with § 63.1063(c)(1), (d)(1), and (d)(2) during the reporting period.

5.1.3 Storage vessels with an external floating roof (only) complying with § 63.646

- Storage vessels with an external floating roof shall submit: Seal Inspections conducted in accordance with § 63.120(b) of Subpart G in which a failure is noted.

- External Floating Roof Storage Vessel Inspections in accordance § 63.120(b)(10) of Subpart G.

Table 3 and Table 4, respectively, contain the information required by § 63.655(g) for each secondary and primary seal inspections conducted in accordance with § 63.120(b)(3), (b)(4), (b)(5), or (b)(6).

> **NOTE:** If any Group 1 storage vessel completed an inspection under § 63.120(b)(10) of Subpart G during the reporting period, that storage vessel became subject to the inspection and reporting requirements under §63.660 and is discussed in Section 5.1.4 and Table 5 of this report.

5.1.4 Storage vessels with an external floating roof (only) complying with § 63.660

Storage vessels with an external floating shall submit:

- Inspections conducted in accordance with § 63.1063(c)(2), (d)(1), and (d)(3) of Subpart WW for which a failure was detected.

Table 5 contains the information required by § 63.655(g) for each annual inspection conducted in accordance with § 63.1063(c)(2), (d)(1), and (d)(3) during the reporting period.

5.2 Miscellaneous Process Vents

5.2.1 Group 1 Miscellaneous Process Vents

The promulgated amendments to Subpart CC modified the definition a miscellaneous process vent (MPV) under §63.641 to include vent streams from: caustic wash accumulators, distillation tower condensers/accumulators, flash/knockout drums, reactor vessels, scrubber overheads, stripper overheads, **vacuum pumps, (steam) ejectors, hot wells, high point bleeds**, wash tower overheads, water wash accumulators, blowdown condensers/accumulators, and delayed coker vents.

NOTE: Newly designated MPVs shown in **bold** text

Further, the amendments also clarified that any Group 1 MPV system that contains bypass lines, as described in § 63.644(c), with the potential to divert a vent stream away from the control device and to the atmosphere or to a control device that does not comply with the requirements in § 63.643(a), shall comply with § 63.644(c)(1), (2), or (3). Use of said bypass at any time is considered an emissions standards violation and is reported as such.

Group 1 Miscellaneous Process Vents at BPH are controlled by a flare with a flare gas recovery system. Therefore, under § 63.655(g)(6), periods that are to be identified in the Periodic Report include the following conditions in accordance with 40 CFR § 63.655(g)(6):

- Periods of excess emissions by means of the conditions specified in § 63.655(g)(6)(i)(A) through (D)
- An operating day when all pilot flames of a flare are absent while flaring. [§ 63.655(g)(6)(i)(B)]
- An operating day when monitoring data required to be recorded in paragraphs (i)(3) (i) and (ii) of this section are available for less than 75 percent of the operating hours. [§ 63.655(g)(6)(i)(C)]
- All periods when all pilot flames for a flare are absent or the monitor is not operating (recording data). [§ 63.655(g)(6)(ii)]
- All periods when the vent stream is diverted through a bypass line or the monitor is not operating. [§ 63.655(g)(6)(ii)]
- All monthly inspections that show the valves are not closed or the seal has been changed. [§ 63.655(g)(6)(ii)]

NOTE: Because all Group 1 Miscellaneous Process Vents at BPH are controlled by a flare, § 63.655(g)(6)(i)(A) does not apply.

NOTE: Data compression systems are not used at BPH, § 63.655(g)(6)(i)(D) does not apply.

Table 6 contains the above instances that occurred during the reporting period.

5.2.2 Maintenance Vents

The December 2015 promulgated amendments to Subpart CC at 40 CFR § 63.643 added provisions for maintenance vents, which are a new designation of MPVs. According to § 63.643(c), a process vent may be designated as a maintenance vent if the vent is only used as a result of startup, shutdown, maintenance, or inspection of equipment where equipment is emptied, depressurized, degassed or placed into service. The provisions added at 40 CFR § 63.643(c)(1) through (c)(3) provide work practice standards for maintenance vents subject to Subpart CC.

Periods that are to be identified in the Periodic Report include the following in accordance with 40 CFR § 63.655(g)(13)(i)-(iv)) for any release exceeding the applicable limits in 40 CFR § 63.643(c)(1):

- Identification of the maintenance vent and the equipment served by the maintenance vent
- Date and time the maintenance vent was opened to the atmosphere
- The lower explosive limit, vessel pressure, or mass of VOC in the equipment, as applicable, at the start of atmospheric venting.
- Estimate of the mass of organic HAP released during the entire atmospheric venting event.

Table 7 contains the above instances that occurred during the reporting period.

Additional periods that are to be identified in the Periodic Report include reporting each venting event for which the lower explosive limit is greater than 20 percent and less than 35% for equipment containing pyrophoric catalyst and the refinery is using the one-time per year equipment exemption (i.e., the LEL alternative), and reporting each venting event which the alternative work practice standards of § 63.643(c)(1)(v) were used for equipment blinding, along with an explanation of why the alternative was required. Table 8 and 9 contain the instances that occurred during the reporting period for which the LEL alternative and equipment blinding alternative work practice standards were utilized, respectively.

5.3 Heat Exchange Systems (HESs)

Pursuant to 40 CFR § 63.655(g)(9)((i)-(v)), Table 10 contains information on the number of heat exchange systems in HAP service, and the number of heat exchange systems in HAP service found to be leaking during the reporting period.

Table 11 contains information on the applicable leak definition for the HES, the actual hydrocarbon monitoring data, the date of the leak and source of leak was identified, actual hydrocarbon re-monitoring data, and date of re-monitoring.

Table 12 contains information on the delay of repair data during the 6-month reporting period.

5.4 Pressure Relief Devices (PRDs)

The promulgated amendments to Subpart CC modified 40 CFR § 63.648(j) to include specific provisions for pressure relief devices (PRDs), such as relief valves or rupture disks, in organic HAP gas or vapor service. The provisions of § 63.648(j) replaced the PRD requirements of § 60.482-4 or § 63.165, as applicable.

In accordance with 40 CFR § 63.655(g)(10)(ii), BPH confirms that all required compliance related monitoring was completed during the reporting period for PRDs in organic HAP gas or vapor service subject to § 63.648(j)(2).

Additional periods that are to be identified in the Periodic Report, include the following in accordance with 40 CFR § 63.655(g)(10)(i).

> **NOTE:** BPH became subject to the pressure release management provisions under § 63.648(j)(3) on January 30, 2019.

Table 13 and Table 14 contain the above instances that occurred during the reporting period.

Under § 63.648(4), PRDs routed to through a closed vent system to a control device, back into the process or to the fuel gas system, are not required to comply with paragraphs § 63.648(j)(1), (2) or (3) and are therefore not included as part of this section. Instead, these PRDs are treated as a Group 1 MPV for purposes of meeting the closed vent system and control device (if applicable) requirements of § 63.644.

5.5 Flares

Unless noted below, BPH confirms that general control device requirements specified in § 63.11(b) were met for this reporting period.

5.6 Delayed Coking Units

The December 2015 promulgated amendments to Subpart CC added provisions under §63.657 for delayed coking unit decoking operations. The delayed coking unit at BPH is subject to the existing sources standards as specified in § 63.657(a)(1).

Periods that are to be identified in the Periodic Report include the following in accordance with 40 CFR § 63.655(g)(12)(i)-(iv)):

- For existing source delayed coking units, any 60-cycle average exceeding the applicable limit in § 63.657(a)(1).
- Total number of double quenching events performed during the reporting period
- For each double quenching draining event when the drain water temperature exceeded 210°F, report the drum, date, time, the coke drum vessel pressure or temperature, as applicable, when pre-vent draining was initiated, and the maximum drain water temperature during the pre-vent draining period.

  NOTE: BPH does not have a "new" source delayed coking unit and therefore § 63.655(g)(12)(ii) does not apply.

Table 15 and Table 16 contains the above instances that occurred during the reporting period.

6. 40 CFR Subpart A Periodic Reporting Requirements

Table 4 in the Appendix to 40 CFR 63 Subpart CC lists only the following Subpart A periodic reporting requirements (Gasoline Distribution Emission Point Recordkeeping and Reporting Requirements) as applicable:

§ 63.428(g)(1)	Semiannual report loading rack information. Required to be submitted with the periodic report required under 40 CFR part 63 Subpart CC.
§ 63.428 (h)(1) - (h)(3)	Excess emissions report loading rack information. Required to be submitted with the periodic report required under 40 CFR part 63 Subpart CC.

Table 6 in the Appendix to 40 CFR 63 Subpart CC lists only the following Subpart A periodic reporting requirements (General Provisions to Applicability to Subpart CC) as applicable:

§ 63.10(d)(1)	Yes
§ 63.10(d)(4)	Yes

The Part 70 Operating Permit Certification contains the name, title, and signature of the responsible official who is certifying the accuracy of this report. [§ 63.10(e)(3)].

7. Notification of Compliance Status Update – Wastewater Streams

Pursuant to identifying wastewater streams at BPH covered by the overlap provisions as identified in 40 CFR § 63.640(o)(1), a listing of Group 1 and Group 2 wastewater streams that were in service under Subpart CC during the reporting period is provided in Table 17.

There are no specific reporting requirements within 40 CFR § 63.655(f) related to wastewater streams.

8. Notification of Compliance Status Update – Gasoline Loading Racks (Terminal)

BPH does not operate a gasoline loading rack regulated under 40 CFR 63 Subpart R or Subpart CC.

9. Notification of Compliance Status Update – Marine Loading

BPH has previously noted compliance with the provisions in § 63.561, which requires that marine tank vessel loading operation located at a petroleum refinery shall comply with the requirements of §§ 63.560 through 63.568.

10. Notification of Compliance Status Update – Storage Vessels

Table 18 lists all Group 1 storage vessels subject to Subpart CC along with the applicable compliance standard and date, if applicable that the compliance standard was triggered.

Additionally, pursuant to 40 CFR § 63.655(g)(14), any change in the information provided as part of a previously submitted NOCS, as specified in § 63.655(f)(1)(i), a listing of Group 1 and Group 2 storage vessels that were put into service under Subpart CC during the reporting period covered in this report is provided in Table 19.

11. Notification of Compliance Status Update – Miscellaneous Process Vents

No performance tests were conducted during the reporting period that demonstrated a change of a Miscellaneous Process Vent from Group 2 status to Group 1 or for demonstrating compliance of a new emission point subject to Subpart CC.

Table 20 lists all of the following Miscellaneous Process Vents for which performance testing was not required in accordance with the provisions of 40 CFR § 63.645(a) and 40 CFR § 63.116(b). Updates to the Group 1 Miscellaneous Process Vents that have been routed to a control device during the reporting period are included.

Additionally, Pursuant to 40 CFR § 63.655(g)(14), any change in the information provided as part of the previously submitted NOCS, as specified in § 63.655(f)(1)(ii) through (iv), for MPVs that became subject to Subpart CC during the reporting period are provided in Table 21.

12. Notification of Compliance Status Update – Heat Exchange Systems

Table 22 lists each new heat exchange system, and its corresponding monitoring compliance option, that was subject to the requirements of Refinery MACT CC during the reporting period.

13. Notification of Compliance Status Update – Pressure Relief Devices

Pursuant to 40 CFR § 63.555(g)(14), any change in the information provided as part of the previously submitted NOCS, as specified in § 63.655(f)(1)(vii), any pressure relief devices that were put into service or became subject to Subpart CC during the reporting period are provided in Table 23.

14. Notification of Compliance Status Update – Delayed Coking Unit

Pursuant to 40 CFR § 63.555(g)(14), any change in the information provided as part of the previously submitted NOCS, as specified in § 63.655(f)(1)(viii), for any delayed coking units that became subject to Subpart CC during the reporting period are provided in Table 24.

Table 1: Group 1 Internal Floating Roof Annual (visual hatch) Inspections Conducted During the Reporting Period for Tanks Complying with § 63.646 40 CFR § 63.655(g)(2)(i)

Annual inspections are conducted to determine the following failures as defined by 40 CFR § 63.655(g)(2)(i)(A)(1): the internal floating roof is not resting on the surface of the liquid inside the storage vessel and is not resting on the leg supports; or there is liquid on the floating roof; or the seal is detached from the internal floating roof; or there are holes, tears, or other openings in the seal or seal fabric; or there are visible gaps between the seal and the wall of the storage vessel.

As provided under 40 CFR § 63.655(g)(2)(i), the Periodic Report does not include information for those tanks where none of the compliance exceptions specified occurred during the reporting period.

Group 1 Tank	Date of Inspection	Description of Failure	Nature of Repair[1]	Date of Repair or removal from Group 1 Service
NA	NA	NA	NA	NA

The above information has been provided pursuant to 40 CFR § 63.655(g)(2)(i)(A)(2).

1 In accordance with 40 CFR § 63.655 (g)(2)(i)(A)(3), if an extension is utilized in accordance with § 63.120(a)(4) of Subpart G, the entry "Extension Utilized" is noted in the Nature of Repair Column. The next Periodic Report will identify the vessel; include the documentation specified in § 63.120(a)(4) of Subpart G; and describe the date the storage vessel was emptied and the nature of and date the repair was made.

Table 2: Group 1 Internal Floating Roof Annual and 10 Year Inspections Conducted During the Reporting Period for Tanks Complying with § 63.660 40 CFR § 63.655(g)(2)(ii)

Annual inspections are conducted to determine a failure, as defined in § 63.1063(d)(1) of Subpart WW. A failure is defined as: stored liquid on the floating roof, holes or tears in the primary or secondary seal (if one is present), floating roof deck, deck fittings, or rim seals that are not functioning as designed (as specified in paragraph (a) of Subpart WW), failure to comply with the operational requirements of paragraph (b) of this section, gaps of more than 0.32 centimeters (1/8 inch) between any deck fitting gasket, seal, or wiper (required by paragraph (a) of Subpart WW) and any surface that it is intended to seal.

As provided under 40 CFR § 63.655(g)(2)(ii), the Periodic Report does not include information for those tanks where none of the compliance exceptions specified occurred during the reporting period.

Group 1 Tank	Date of Inspection	Description of Failure	Nature of Repair[2]	Date of Repair or removal from Group 1 Service	Inspection Record Included with Submittal?
NA	NA	NA	NA	NA	NA

The above information has been provided pursuant to 40 CFR § 63.655(g)(2)(ii).

2 In accordance with 40 CFR § 63.655(g)(2)(ii)(C), if an extension is utilized in accordance with § 63.1063(e)(2) of Subpart WW, next periodic report shall include the documentation required by § 63.1063(e)(2).

Table 3: Group 1 External Floating Roof Secondary Seal Inspections Conducted During the Reporting Period for Tanks Complying with § 63.646 40 CFR § 63.655(g)(3)

As provided under 40 CFR § 63.655(g)(3), the Periodic Report does not include information for those tanks where none of the compliance exceptions specified occurred during the reporting period.

Group 1 Tank	Date of Inspection	Description of Failure and/or Seal Condition	Nature of Repair[3]	Date of Repair or removal from Group 1 Service
NA	NA	NA	NA	NA

The above information has been provided in accordance with 40 CFR § 63.655(g)(3)(i). When exceptions are noted above, Secondary Seal Gap Calculations completed in accordance with 40 CFR § 63.120(b)(4) are attached (Attachment B) for those Group 1 external floating roof storage vessels that failed the requirement of 21.2 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 1.27 centimeters (§ 63.120(b)(4)) and for secondary seals that are found that do not completely cover the space between the roof edge or are found to have holes, tears, or other openings in the seal or seal fabric (§ 63.120(b)(6)) are attached.

3 In accordance with 40 CFR § 63.655(g)(3)(i)(B), if an extension is utilized pursuant to § 63.120(b)(7)(ii) or (b)(8) of Subpart G, the entry "Extension Utilized" is noted in the Nature of Repair Column. The next Periodic Report, will identify the vessel; include the documentation specified in § 63.120(b)(7)(ii) or (b)(8) of Subpart G; and describe the date the storage vessel was emptied and the nature of and date the repair was made.

Table 4: Group 1 External Floating Roof Primary Seal Inspections Conducted During the Reporting Period for Tanks Complying with § 63.646 40 CFR § 63.655(g)(3)

As provided under 40 CFR § 63.655(g)(3), the Periodic Report does not include information for those tanks where none of the compliance exceptions specified occurred during the reporting period.

Group 1 Tank	Date of Inspection	Description of Failure and/or Seal Condition	Nature of Repair[4]	Date of Repair or removal from Group 1 Service
NA	NA	NA	NA	NA

The above information in provided in accordance with 40 CFR § 63.655(g)(3)(i)(A). When exceptions are noted above, Primary Seal Gap Calculations completed in accordance with 40 CFR § 63.120(b)(3) are attached for those Group 1 external floating roof storage vessels that failed the requirement of 212 square centimeters per meter of vessel diameter and the width of any portion of any gap shall not exceed 3.81 centimeters (§ 63.120(b)(3)) and the requirements that for primary seals where a metallic shoe seal is in use that one end of the metallic shoe shall extend into the stored liquid and the other end shall extend a minimum vertical distance of 61 centimeters above the stored liquid surface, and that there shall be no holes, tears, or other openings in the shoe, seal fabric, or seal envelope(§ 63.120(b)(5)).

4 In accordance with 40 CFR § 63.655(g)(3)(i)(B), if an extension is utilized pursuant to § 63.120(b)(7)(ii) or (b)(8) of Subpart G, the entry "Extension Utilized" is noted in the Nature of Repair Column. The next Periodic Report, will identify the vessel; include the documentation specified in § 63.120(b)(7)(ii) or (b)(8) of Subpart G; and describe the date the storage vessel was emptied and the nature of and date the repair was made.

Table 5: Group 1 External Floating Roof Internal Inspections Conducted During the Reporting Period for Tanks Complying with §63.660 40 CFR § 63.655(g)(3)(i)(C)

Inspections are conducted to determine a failure, as defined in § 63.1063(d)(1) of Subpart WW. A failure is defined as: stored liquid on the floating roof, holes or tears in the primary or secondary seal (if one is present), floating roof deck, deck fittings, or rim seals that are not functioning as designed (as specified in paragraph (a) of Subpart WW), failure to comply with the operational requirements of paragraph (b) of this section, gaps of more than 0.32 centimeters (1/8 inch) between any deck fitting gasket, seal, or wiper (required by paragraph (a) of Subpart WW) and any surface that it is intended to seal.

As provided under 40 CFR § 63.655(g), the Periodic Report does not include information for those tanks where none of the compliance exceptions specified occurred during the reporting period.

Group 1 Tank	Date of Inspection	Description of Failure and/or Seal Condition	Nature of Repair[5]	Date of Repair or removal from Group 1 Service	Inspection Record Included with Submittal?
NA	NA	NA	NA	NA	NA

The above information has been provided in accordance with 40 CFR § 63.655(g)(3)(ii).

5 In accordance with 40 CFR 63.655 (g)(2)(ii)(C), if an extension is utilized in accordance with § 63.1063(e)(2) of Subpart WW, next periodic report shall include the documentation required by § 63.1063(e)(2).

Table 6: Excess Emission Data for Group 1 Miscellaneous Process Vent 40 CFR § 63.655(g)(6)

As provided under 40 CFR § 63.655(g)(6), the Periodic Report does not include information for those Group 1 Miscellaneous Process Vent where none of the compliance exceptions specified occurred during the reporting period.

Flare	Duration of Excess Emission (Start date/time - End date/time)	Absence of a Flame	Absence of monitoring data (i.e., monitor is not operating)	Less than 75% of hourly monitoring data available in an operating day	Miscellaneous Process Vent diverted thru bypass or monitor not operating	Miscellaneous Process Vent bypass valve found not closed or the seal has been changed
None	-	-	-	-	-	-

NOTE: As provided under 40 CFR § 63.655(g), this report of periods of excess emissions is required only for Group 1 miscellaneous process vents for which continuous parameter monitors are required by this Subpart. No monitoring is required for boilers and process heaters with a design heat capacity 44 megawatts or for boilers and process heaters where all vent streams are introduced into the flame zone. No recordkeeping or reporting associated with monitoring is required for such boilers and process heaters.

Table 7: Releases at Maintenance Vents Subject to §63.643(c) 40 CFR § 63.655(g)(13)

Pursuant 40 CFR § 63.655(g)(13), the Periodic Report includes information for any release exceeding the applicable limits in §63.643(c)(1) that occurred during the reporting period.

Maintenance Vent ID	Associated Equipment	Date and Time Maintenance was Opened to the Atmosphere	LEL (at start of atmospheric venting)	Vessel Pressure (at start of atmospheric venting)	Mass of VOC in the Associated Equipment (at start of atmospheric venting)	Estimate of the Mass of Organic HAP release to the Atmosphere
None	--	--	--	--	--	--

NOTE: If the 5 psig vessel pressure option in §63.643(c)(1)(ii) was used and active purging was initiated while the lower explosive limit was 10 percent or greater, also include the lower explosive limit of the vapors at the time active purging was initiated.

Table 8: One-time per Year Pyrophoric Catalyst Equipment Exemption at 63.643(c)(i)(iv) 40 CFR § 63.655(g)(13)

Pursuant 40 CFR § 63.655(g)(13), the Periodic Report includes information for each venting event for which the lower explosive limit is greater than 20 percent and less than 35% for equipment containing pyrophoric catalyst and the refinery is using the one-time per year equipment exemption during the reporting period.

Maintenance Vent	Associated Equipment and/or Process Unit(s)	Date and Time Maintenance was Opened to the Atmosphere Opened to the Atmosphere	LEL (at start of atmospheric venting)
None	-	-	-

Table 9: Usage of the Equipment Blinding Alternative Work Practice Standard at 63.643(c)(i)(v) 40 CFR § 63.655(g)(13)

Pursuant 40 CFR § 63.655(g)(13), the Periodic Report includes information for each venting event which the alternative work practice standards of §63.643(c)(1)(v) were used for equipment blinding during the reporting period.

Maintenance Vent ID	Associated Equipment and/or Process Unit(s)	Date and Time Maintenance Was Opened to the Atmosphere	Explanation of Why the Equipment Blinding Alternative Was Used
None	-	-	-

Table 10: Heat Exchange Systems (HESs) Data 40 CFR § 63.655(g)(9)(i)-(ii)

As provided under 40 CFR § 63.655(g)(9)(i) and (ii), the Periodic Report is required to provide a summary of the heat exchange systems (HESs) in HAP service at the plant site subject to monitoring provisions in § 63.654, and the number of HESs in HAP service found to be leaking during the 6-month reporting period.

The number of HES subject to monitoring	The number of HES in HAP service found to be leaking
21	1
7 HESs added as shown in the NOCS update on Table 22 are reflected in the numbers above. These HESs had missed monthly monitoring from July 2016 through December 2019, with monthly reporting beginning in January 2020. This was previously reported in the "Title V Quarterly Deviation Report – 4th Quarter 2019" submitted on January 31, 2020.	

Table 11: Monitoring and Repair Data for Leaking Heat Exchange Systems 40 CFR § 63.655(g)(iii)-(iv)

As provided under 40 CFR § 63.655(g)(9)(iii)-(iv), the Periodic Report is required to provide a summary of the monitoring location(s) (e.g. monitoring location or HES ID) where the total strippable hydrocarbon concentration was equal or greater than the applicable leak definition specified in § 63.654(c)(6), the measured total strippable hydrocarbon concentration, the date the leak was identified, the date the source of the leak was identified, the total strippable hydrocarbon concentration measured during re-monitoring to verify repair, and the re-monitoring date (i.e., the effective date of repair) during the 6-month reporting period.

Heat Exchange System ID	Applicable Leak Definition (ppmv)	Hydrocarbon Monitoring Data (ppmv)	Date HES found leaking	Date the source of the leak was identified	Hydrocarbon Re-monitoring Data to Verify Repair (ppmv)	Re-monitoring Date
OTCW PR543749	6.2	86.4	10/28/19	10/28/19	1.7	12/10/2019
The exchanger was isolated and removed from VOC service on 10/29/2019. The heat exchanger bundle was pulled and replaced with a new bundle; the exchanger was placed back in service on 11/25/2019.						

Table 12: Monitoring, Emissions and Repair Data for Leaking Heat Exchange Systems Placed on Delay of Repair 40 CFR § 63.655(g)(9)(v)

As provided under 40 CFR § 63.655(g)(9)(v), the Periodic Report is required to provide a summary of each delayed repair by providing the monitoring location associated with the leak for which repair is delayed, the date when the delay of repair began, the date of repair is expected to be completed (if the leak is not repaired during the reporting period), the total strippable hydrocarbon concentration and date of each monitoring event conducted on the delayed repair, and an estimate of the potential strippable hydrocarbon emissions over the reporting period associated with the delayed repair.

Monitoring Location / Heat Exchange System ID	Date placed on Delay of Repair	Reason Placed on Delay of Repair (e.g. technically infeasible, equipment / parts / personnel not available)	Date Delay of Repair was Repaired (If Applicable)	Date Delay of Repair is Expected to be Repaired	Hydrocarbon Monitoring Data (ppmv)	Date of Monitoring Event During Delay of Repair	Estimate of Potential Hydrocarbon Emissions (lbs)
No leaking applicable HES were placed on delay of repair during the reporting period.							

Table 13: Instrument Reading of 500 ppm or Greater at Pressure Relief Devices in Organic HAP Service and Confirmation Monitoring Conducted during Reporting Period 40 CFR § 63.655(g)(10)(i)-(ii)

Pursuant 40 CFR § 63.655(g)(10)(i) and (ii), the Periodic Report is required to include any instrument reading of 500 ppm or greater pressure relief devices (PRDs) in organic HAP gas or vapor service, pursuant to § 63.648(j)(1), and confirmation that any monitoring required to be done during the reporting period to show compliance was conducted, pursuant to §63.648(j)(2).

Pressure Relief Device	Instrument Reading (ppm)	Date of Instrument Reading
None	NA	NA

Table 14: Pressure Relief Device Releases to Atmosphere 40 CFR § 63.655(g)(10)(iii)

Pursuant 40 CFR § 63.655(g)(9)(10)(iii), the Periodic Report includes information for each pressure release to the atmosphere that occurred during the reporting period.

Pressure Relief Device	Date, Time and Duration of the Pressure Release	Estimate of the Mass Quantity of each Organic HAP Released (lbs)	Summary of the Root Cause Analysis and Correction Actions	Implementation Schedule for Corrective Action (if not completed during current reporting period)
PSV 22 & PSV 24	7/19/19 00:24 to 00:25 (PSV 22) & 7/19/19 00:28-00:29 (PSV 24)	5.1	Root Cause: As the East and West Iso Make Gas Compressor System was unloaded, leakage across the internal valves of the 2nd stage compressor allowed high pressure gas present on the discharge side of the 2nd stage compressor to flow backwards through the compressor and into the 2nd stage suction drums. The increased pressure on the 2nd stage compressor suction drums led to the lifting of atmospheric PSV 22 and PSV 24.	
			Action: Replace the internal valves on the ISO make gas compressors	Complete
			Action: Evaluate the feasibility of reducing 2nd stage pressure to 800 PSIG prior to unloading ISO make gas compressor. Update ISO 2nd second stage shutdown procedure (06.013) if feasibility study indicates that pressure reduction to 800 PSIG can be performed prior to compressor unloading.	Complete
			Action: Evaluate feasibility of adding inter-stage valve to the kickback line to allow path for depressurization if backflow across the 2nd stage compressor occurs.	Complete
			Action: Evaluate routing PSV 22 & PSV 24 to the flare system	10/30/2020
PSV 3	8/5/2019 21:18:55 to 8/5/2019 21:19:04	10.9	Root Cause: Misaligned or blocked-in valve	
			Action: Improve labeling of MOVs to clearly identify them	Complete
PSV 1820B	10/12/2019 02:10 to 10/12/2019 02:17	7.6	Root Cause: The BOC hydrogen compressor discharge pressure increased higher than the discharge of the DHT	

			machine while the refinery was operating under abnormal conditions, including a downstream unit catalyst change out. The DHT machine attempted to go to full recycle, which allowed backflow from the BOC compressor discharge to the DHT suction. The system could not handle the increase in suction pressure and the interstage PSV 1820B lifted.	
			Action: Review operating procedures and update shutdown procedures for catalyst change-outs; implement changes per review [or make new Action].	Complete
			Action: Evaluate the feasibility of routing these PSVs to the flare.	6/15/2020
			Action: Per the evaluation of the feasibility of routing the PSVs to the flare, create follow up actions as appropriate.	8/15/2020
			Action: Reevaluate the control scheme around the hydrogen system between ADHT and BGOT to determine if there are improvement opportunities.	Complete

Table 15: Instances where Delayed Coking Unit Exceeded Applicable Limits 40 CFR 63.655(g)(12)(i)

Pursuant 40 CFR § 63.655(g)(12)(i), the Periodic Report includes information for each 60-cycle average that exceeded the applicable limit listed in §63.657(a)(1) that occurred during the 6-month reporting period.

Delayed Coking Unit	Date of 60-cycle Average Exceeding 220 deg. F (Coker 2) or 2.49 psi (Coker 3)	60-cycle Average Recorded during Exceedance
Coker 2	None	NA
Coker 3	None	NA

Table 16: Total Number of Double Quenching Events Including Double Quenching Events where Drain Water Temperature Exceeded 210°F 40 CFR 63.655(g)(12)(iii)-(iv)

Delayed Coking Unit/Drum	Date and Time of Double Quenching Event	Drum Temperature and/or Pressure (as applicable, when pre-vent draining was initiated)	Maximum Temperature of Drain Water during Pre-vent Draining Period
Coker 2	None	NA	NA
Coker 3	None	NA	NA
		Total:	**NA**

Table 17: Notification of Compliance Status Update – Wastewater Streams

This table lists the following two types of information: 1) additional Group 1 and Group 2 wastewater streams subject to Subpart CC, which commenced during this reporting period, and 2) existing and new Group 2 wastewater streams that have been reclassified, during this reporting period, as Group 1 wastewater streams subject to Subpart CC.

Unit/ Tank	Tank Number	Tank Description	BWON Controlled (Y/N)	Water Contents > 10% (Y/N)	MACT CC Streams (Group 1or 2)
NA	NA	NA	NA	NA	NA

Table 18: Group 1 Storage Vessel Applicable Compliance Standard Tracking

This table lists the following three types of information: 1) all existing Group 1 storage vessels that became subject to Subpart CC during the reporting period, 2) existing Group 2 storage vessels that became subject to Subpart CC, and 3) Group 1 and Group 2 storage vessels that were newly constructed during the reporting period. This information is provided in accordance with 40 CFR § 63.655(f)(1)(i).

Tank Number	Applicable Compliance Standard (§ 63.646 or § 63.660)	Compliance Standard Trigger Date
NA	NA	

Table 19: Notification of Compliance Status Update – Storage Vessels

This table lists the following three types of information: 1) all existing Group 1 storage vessels that became subject to Subpart CC during the reporting period or updates to existing Group 1 storage vessels, 2) existing Group 2 storage vessels that became subject to Subpart CC, and 3) Group 1 and Group 2 storage vessels that were newly constructed during the reporting period. This information is provided in accordance with 40 CFR § 63.655(f)(1)(i).

Tank Number	Status (Group 1 or 2)	Date Subject to Subpart CC	Method of Compliance
NA	NA	NA	NA

Table 20: Notification of Compliance Status Update – Miscellaneous Process Vents

This table lists new Group 1 Miscellaneous Process Vents that have been routed to a control device during the reporting period. This table also lists Group 2 Miscellaneous Process Vents that may or may not be routed to a control device.

Name of Miscellaneous Process Vent	Status (Group 1 or 2)	Control Device	Reason that Performance Testing was not Required
NA	NA	NA	NA

Table 21: Notification of Compliance Status Update – Maintenance Vents Designated as Group 2 Miscellaneous Process Vents

Process Unit	Name of Miscellaneous Process Vent	Status (Group 1 or 2)
NA	NA	NA

Table 22: Notification of Compliance Status Update – Heat Exchange Systems (HESs)

As provided in § 63.655(f)(1)(vi) during this reporting period, the Periodic Report is required to provide any update to the NOCS by identifying the HESs that are subject to the requirements of Refinery MACT CC, and the monitoring compliance option that will be conducted on each HES as specified in § 63.654(c)(4)(i) or § 63.654(c)(4)(ii).

Heat Exchange System ID	Monitoring Compliance Option (e.g. monthly monitoring with 6.2 ppmv leak definition or quarterly monitoring with 3.1 ppmv leak definition)
OTCW PR543618	Monthly
OTCW PR543683/PR543684	Monthly
OTCW PR543698/PR543699	Monthly
OTCW PR543700/PR543701	Monthly
OTCW PR543702	Monthly
OTCW PR543750	Monthly
OTCW PR543749	Monthly

Table 23: Notification of Compliance Status Update – Pressure Relief Devices

This table lists new pressure relief devices that became subject to Subpart CC during the reporting period.

Pressure Relief Device ID	Description of the Monitoring System (Relief devices and parameters)	Description of Alarm Controls or Other Methods of Notification of Pressure Release
NA	NA	NA

Table 24: Notification of Compliance Status Update – Delayed Coking Unit

This table lists new and existing delayed coking units that became subject to Subpart CC during the reporting period.

Delayed Coking Unit/Drum ID	New or Existing Affected Source	Monitoring Conducted as specified in §63.657(b) or §63.657(c)?
NA	NA	NA

Attachment A – NSPS VV Report

(Note the components following NSPS VV and NSPS GGG/GGGa were reported in the NSPS GGG/GGGa Report submitted on 1/30/2020)

January 29, 2020

Des Gillen
President
BP-Husky Refining LLC
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U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604-3590
Attn: Director, Air Management Division

City of Toledo
Division of Environmental Services
348 S. Erie Street
Toledo, OH 43604
Attn.: Philip Stiff, III

Re: **Second Half, 2019 NSPS Subpart GGG/GGGa Semi-Annual Report**

Dear Sir or Madam:

In accordance with 40 CFR Part 60.592, this letter serves as the semi-annual report for all equipment subject to New Source Performance Standard (NSPS), Subpart GGG and GGGa - Standards of Performance for Equipment Leaks of VOC in Petroleum Refineries, located at BP-Husky Refining LLC covering the second half of 2019.

Attached is a summary of the components inspected during the reporting period, including the number of components reported leaking and the number of leaks not repaired as required. Dates of process unit shutdowns, and changes in the number or service of components are also included in the attachment.

Prior to January 1, 2003, the Toledo Refinery utilized a skip-period alternative schedule for component monitoring. However, the Consent Decree entered on August 29, 2001 in *United States et al., v, BP Exploration and Oil Co., et al*, Civil No. 2:96 CV 095 RL, N.D. Indiana, Hammond Division required the Toledo Refinery to implement more frequent component monitoring, beginning no later than two (2) years from the Date of Lodging (January 18, 2001). In accordance with Paragraph 20.H.(i.) of that Consent Decree, the Toledo Refinery implemented the option of quarterly monitoring of all components with no ability to skip periods. This change became effective on January 1, 2003.

As required by our Title V Permit and based on information and belief formed after reasonable inquiry, the statements and information in this report are true, accurate, and complete.

If you have any questions, please contact Cameron Loth at (567) 698-4833.

Sincerely,

Des Gillen
President – BP-Husky Refining LLC

Attachment

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **Alky 1**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	1761					
G/V or L/L Valves Leaking (>500 PPM)	0	1	0	0	6	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	54					
L/L Pumps Leaking (>2,000 PPM)		1	1			
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	2					
Compressors Leaking	0	0	0	0	0	0
Compressors Not Repaired as Required	0	0	0	0	0	0
Dates of Process Shutdowns	7/10-7/12	8/13-8/15	n/a	10/4-10/11	11/13-11/15	N/A

Reason for Change: 19 valves added, 9 valves removed

Reason for Delay of Repair: Equipment isolated from process for pump - Tag# 219399.

Unit Name: **Alky 2**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2562					
G/V or L/L Valves Leaking (>500 PPM)	0	0	2	0	0	3
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	102					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	1	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	1	0	0
Number of Compressors	3					
Compressors Leaking	0	0	0	0	0	1
Compressors Not Repaired as Required	0	0	0	0	0	0
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	11/13-12/7	

Reason for Change: 3 valves added, 3 valves deleted

Reason for Delay of Repair: Equipment isolated from process for pump - Tag# 207493.

Unit Name: **Alky 3**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2176					
G/V or L/L Valves Leaking (>500 PPM)	2	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	54					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
Number of Compressors	1	0	0	1	0	0
Compressors Leaking	0					
Compressors Not Repaired as Required	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	11/13-11/18	n/a

Reason for Change: n/a

Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **C_4^+ Vapor Recovery Unit**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	0					
Number of L/L Pumps	0					
Number of Compressors	0					
Dates of Process Unit Shutdowns	n/a					

Reason for Change: Equipment Decommissioned with light ends start-up. Remaining components added to ISO 2.

Reason for Delay of Repair: n/a

Unit Name: **"B"-Train DHT (P029)**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2815					
G/V or L/L Valves Leaking (>500 PPM)	2	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	90					
L/L Pumps Leaking (>2,000 PPM)*	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	2					
Compressors Leaking	0	0	0	0	0	0
Compressors Not Repaired as Required	0	0	0	0	0	0
Dates of Process Unit Shutdowns	n/a	n/a	n/a	10/1-10/9 & 10/16-10/18	n/a	n/a

Reason for Change: 15 valves added, 13 valves removed

Reason for Delay of Repair: n/a

Unit Name: **"A"-Train DHT (P028)**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	1440					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	24					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Unit Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: n/a

Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **Coker 1 (P016)**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	0					
Number of L/L Pumps	0					
Number of Compressors	0					
Dates of Process Shutdowns	n/a					

Reason for Change: This unit was shut down and replaced with Coker 3.
Reason for Delay of Repair: N/A.

Unit Name: **Scaltech Unit (P802)**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	0					
Number of L/L Pumps	0					
Number of Compressors	0					
Dates of Process Shutdowns:	n/a					

Reason for Change: LDAR components removed from this unit in Apr 2006.
Reason for Delay of Repair: N/A.

Unit Name: **Coker 2 (P017)**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	1006					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	12					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	7/1-7/10	n/a	9/17-10/24		n/a	n/a

Reason for Change: 94 valves added, 148 valves removed
Reason for Delay of Repair: n/a

Unit Name: **Asphalt Loading Rack #2 (J005)**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	0					
Number of L/L Pumps	0					
Number of Compressors	0					
Dates of Process Shutdowns	n/a					

Reason for Change: Refinery has reviewed service of routinely monitored components and determined that the piping system on which these components are located conveys only Natural gas; therefore, the previously monitored components in this unit are exempt.

Reason for Delay of Repair: N/A.

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **TRP Amine Unit (P038)**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	160					
G/V or L/L Valves Leaking (> 500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	6					
L/L Pumps Leaking (>10,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: n/a
Reason for Delay of Repair: n/a

Unit Name: **TRP SRUs (P037)**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	552					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	18					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns - SRU 2	n/a	8/6-8/7	n/a	10/3-10/22	11/13-11/19	n/a
Dates of Process Shutdowns - SRU 3	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: n/a
Reason for Delay of Repair: n/a

Unit Name: **Coker 3**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2343					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	1
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	66					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	2					
Compressors not repaired as required	0	0	0	0	0	0
Dates of Process Shutdowns	n/a	n/a	n/a	10/4-10/8	n/a	n/a

Reason for Change: 27 valves added, 36 valves removed.
Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **Crude Vac 1**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2498					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	1	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	42					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 4 valves added.
Reason for Delay of Repair: n/a

Unit Name: **Crude Vac 2**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2218					
G/V or L/L Valves Leaking (>500 PPM)	1	0	0	0	0	1
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	0					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	7/1-7/6	n/a	n/a	n/a	n/a	n/a

Reason for Change: 44 valves added; 22 valve removed
Reason for Delay of Repair: n/a

Unit Name: **FCC 1 & 2**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	1749					
G/V or L/L Valves Leaking (>500 PPM)	0	1	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	1	0	0	0	0
Number of L/L Pumps	93					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	1
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	1
Number of Compressors	4					
Compressors Leaking	0	0	0	0	0	0
Compressors Not Repaired as Required	0	0	0	0	0	0
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	11/13-11/15	n/a

Reason for Change: 2 valves added, 1 pump added.
Reason for Delay of Repair: Equipment isolated from process for the pump - Tag # 208598; Repair technically infeasible without process unit shutdown - Tag # 219001.

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **Merox Treater**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	1562					
G/V or L/L Valves Leaking (>500 PPM)	1	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	0					
Number of Compressors	4					
Compressors Leaking	0	0	0	0	0	0
Compressors Not Repaired as Required	0	0	0	0	0	0
Dates of Process Shutdowns	7/9-7/12	n/a	n/a	n/a	11/20-11/26	12/4-12/5 & 12/25-12/30

Reason for Change: 11 valves added, 24 valves removed.
Reason for Delay of Repair: n/a

Unit Name: **Naphtha Treater / SGP**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2190					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	42					
L/L Pumps Leaking (>2,000 PPM)	0	1	0	0	0	1
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	2					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 12 valves added, 39 valves removed.
Reason for Delay of Repair: n/a

Unit Name: **Reformer 2**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	12					
G/V or L/L Valves Leaking (>10,000 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	0					
Number of Compressors	0					
Dates of Process Shutdowns	n/a					

Reason for Change: Unit shut-down 1/12/2013. Components from other process units are included in this area.
Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **Unsat Gas Plant**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2276					
G/V or L/L Valves Leaking (>500 PPM)	0	2	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	78					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	11/13-11/15	n/a

Reason for change: 3 valves added, 3 valves removed.
Reason for Delay of Repair: n/a

Unit Name: **Iso 2**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	6980					
G/V or L/L Valves Leaking (>500 PPM)	3	4	0	0	2	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	126					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	2					
Dates of Process Shutdowns	7/1-7/14 & 7/18-7/27	8/5-8/13	n/a	n/a	n/a	n/a

Reason for change: 730 valves added, 360 valves removed.
Reason for Delay of Repair: n/a

Unit Name: **East Alstom Boiler**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	248					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	0					
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: n/a
Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **West Alstom Boiler**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	256					
G/V or L/L Valves Leaking (>10,000 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	0					
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 10 valves added, 2 valves removed.

Reason for Delay of Repair: n/a

Unit Name: **LPG**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2581					
G/V or L/L Valves Leaking (>500 PPM)	7	0	0	4	0	0
G/V or L/L Valves Not Repaired as Required	1	0	0	1	0	0
Number of L/L Pumps	48					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 88 valves added, 7 valves removed.

Reason for Delay of Repair: Repair needs process unit shut down. Tag #'s 122227 & 10497.

Unit Name: **CO Boiler**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	334					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	0					
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: n/a

Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **Reformer 3**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	3751					
G/V or L/L Valves Leaking (>500 PPM)	2	0	0	3	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	54					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	6					
Number of Connectors	0	0	0	0	0	0
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 7 valves added, 3 valves removed.
Reason for Delay of Repair: n/a

Unit Name: **Cat Poly Plant**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2276					
G/V or L/L Valves Leaking (>500 PPM)	2	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	18					
L/L Pumps Leaking (>2,000 PPM)	0	1	0	0	1	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	6					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	11/13-11/15	n/a

Reason for Change: 23 valves added; 18 valves removed.
Reason for Delay of Repair: Equipment isolated from process for the pump - Tag #208238.

Unit Name: **East Flare**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	172					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	18					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 1 valve added.
Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **SRU #1**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	338					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	0					
Number of Compressors	0					
Dates of Process Shutdowns	8/7-8/13	n/a	10/4-10/8	n/a	n/a	n/a

Reason for Change: 2 valves added, 6 valves removed.
Reason for Delay of Repair: n/a

Unit Name: **West Flare**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	396					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	36					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: n/a
Reason for Delay of Repair: n/a

Unit Name: **DIB Towers**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	1427					
G/V or L/L Valves Leaking (>500 PPM)	0	0	1	0	0	1
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	30					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	1	0	1
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 25 valves added, 8 valves removed.
Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **Coker Wet Gas Treater**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	1184					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	24					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	1
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns		8/6-8/26		10/4-10/8 & 10/17-10/31	11/13-12/6 & 12/16-12/18	

Reason for Change: 2 valves added 1 valve removed.
Reason for Delay of Repair: n/a

Unit Name: **EPA Unit**

	Jan	Feb	Mar	Apr	May	Jun
Number of G/V or L/L Valves	1789					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	90					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 31 valves added, 20 valves removed.
Reason for Delay of Repair: n/a

Unit Name: **H_2 Plant**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	1582					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	1	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	0					
Number of Compressors	8					
Compressors Leaking	0	0	0	0	0	0
Compressors Not Repaired as Required	0	0	0	0	0	0
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 88 valves added, 37 valves removed.

Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **Blender**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	1906					
G/V or L/L Valves Leaking (>500 PPM)	1	1	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	62					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	This is a batch unit and requires shutting down and restarting depending on blending requirements.					

Reason for Change: 19 valves & 1 pump added,6 valves removed.
Reason for Delay of Repair: n/a

Unit Name: **East Tank Farm**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	3090					
G/V or L/L Valves Leaking (>500 PPM)	2	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	112					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 45 valves & 2 pumps added, 46 valves & 2 pumps removed.
Reason for Delay of Repair: n/a

Unit Name: **North Tank Farm**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	2859					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	1
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	78					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	8					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 42 valves added, 27 valves removed.
Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **West Tank Farm**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	3495					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	84					
L/L Pumps Leaking (>2000 PPM)	0	0		0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 15 valves added, 2 valves removed.
Reason for Delay of Repair: n/a

Unit Name: **Marine Dock**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	137					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	6					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 1 valve added.
Reason for Delay of Repair: n/a

Unit Name: **Benzene Stripper**

	Jan	Feb	Mar	Apr	May	Jun
Number of G/V or L/L Valves	482					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	36					
L/L Pumps Leaking (>2000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: n/a
Reason for Delay of Repair: n/a

SEMIANNUAL NSPS LEAK DETECTION AND REPAIR REPORT

Unit Name: **WWTU**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	292					
G/V or L/L Valves Leaking (>10,000 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	60					
L/L Pumps Leaking (>10,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: 14 valves added, 1 valve removed.

Reason for Delay of Repair: n/a

Unit Name: **Reformer 1**

	Jul	Aug	Sep	Oct	Nov	Dec
Number of G/V or L/L Valves	48					
G/V or L/L Valves Leaking (>500 PPM)	0	0	0	0	0	0
G/V or L/L Valves Not Repaired as Required	0	0	0	0	0	0
Number of L/L Pumps	0					
L/L Pumps Leaking (>2,000 PPM)	0	0	0	0	0	0
L/L Pumps Leaking (Visual)	0	0	0	0	0	0
L/L Pumps Not Repaired as Required	0	0	0	0	0	0
Number of Compressors	0					
Compressors Leaking	0	0	0	0	0	0
Compressors Not Repaired as Required	0	0	0	0	0	0
Dates of Process Shutdowns	n/a	n/a	n/a	n/a	n/a	n/a

Reason for Change: n/a

Reason for Delay of Repair: n/a

Attachment B – Internal Floating Roof Tanks Complying with § 63.660
Inspection Records

(There are no inspection records for internal floating roof tanks complying with § 63.660 during this reporting period.)

Attachment C – External Floating Roof Tank Seal Gap Calculations

(There are no external floating roof tank seal gap calculations during this reporting period.)

Attachment D – Tank Repair Extension Justifications

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(There are no tank repair extension justifications during this reporting period.)